

The role of formal and informal institutions in the economic growth of Asian region: Evidence from a novel approach

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The role of formal and informal institutions in promoting economic growth has not been formally and analytically analyzed in the context of Asian economies. To fulfill this gap, the role of formal and informal institutions in the economic growth of Asian countries is empirically examined over the period of 1986 to 2020. Panel fixed effect method and system GMM (Generalized Methods of Moment) dynamic panel estimation technique is employed for empirical analysis. Empirical estimates reveal that the linear and non-linear effect of formal and informal institutions on economic growth is positive while their joint effect is reported to be negative. Thus, the findings concludes that formal and informal institutions are complement to each other. Further, informal institutions may increase societal efficiency by facilitating cooperative activities and without considering their role better economic performance is not possible in Asian countries.

Keywords: Formal institutions, informal institutions, economic growth, Asian countries.

INTRODUCTION

Most of the prior studies on economic growth mainly used economic factors like human capital and/or physical capital, trade and available technology etc. to determine economic performance of an economy. These studies ignore the significance of institutions in the development process. North (1990) was the pioneer that initialized the role of institutions in the development process and hypothesized its significance for both short-term and long-term economic growth. North described institutions as “*the rules of the game in a society or, more formally, [they] are the humanly devised constraints that shape human interaction*” (North 1990, p. 3). North (1990) argued that if the “rule of game” ensures sufficient returns on human and physical capital investment as well as new innovations then investment activities will emerge and economic progress will accelerate. Otherwise, people will invest in rent seeking, political competition and violence and as a consequences economic progress will deteriorate. From this perspective, it can be said that a well-developed institutional structure reduces uncertainty and increases economic efficiency. At the end of the 20th century, economic thought shifted towards the analysis of the institutional environment. In this regard, number of studies, for example, Barro (1994); Acemoglu *et al.* (2002); Gwartney *et al.* (2006);

Mijiyawa, (2008); Nawaz. (2011); Panahi *et al.* (2014); Ahmad and Hall, (2017) described the role of institutions in explaining the variation in economic growth.

The institution is a multi-dimensional concept, it cannot be measured by using single indicator. In empirical literature, a number of indicators are used to measure institutional quality such as political rights and civil liberties (Dawson, 1998; Islam *et al.*, 2002; Jankauskas and Šeputienė 2009; Chauffour 2011; Balamoune-Lutz, 2011; Zouhaier and Karim, 2012; Zouhaier, 2012; and Nasreen *et al.*, 2015), bureaucratic efficiency (Mauro, 1995; Hall and Jones, 1999; Rauch and Evans, 2000; Ahmad and Hall, 2017) and property rights (Acemoglu *et al.*, 2001, 2002; Falvey *et al.*, 2006; Balamoune-Lutz, 2011 and Haydaroglu, 2015).

There is another strand of literature that investigated the role of informal institutions (social capital) in economic performance (Zak and Knack, 2001; Mouw, 2003; Gomez and Jehiel, 2005; Beugelsdijk and Van Schaik, 2005; Raiser, 2008; Roth, 2009 and Tabellini, 2010). Some recent studies described social capital in terms of norms, regulations, and cooperative behavior that increase trust among individuals and reduce transaction cost by facilitating economic exchange (Fukuyama, 1995; Temple & Johnson, 1998; Paxton, 2002; Rupasingha *et al.*, 2006; Sri Susilo and Arsyad, 2012; Peiró-Palomino and Tortosa-Ausina, 2015).

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The concept of informal institution is not relatively new in social sciences. It was first introduced by Hanifan (1916) and became more popular by the seminal work of Putnam *et al.*, (1993). According to Putnam (1993), social capital refers to “features of social organization, such as trust, norms, and networks that can improve the efficiency of society”. Coleman (1990) defined social capital as: “some aspect of social structure that enables the achievement of certain ends that would not be attainable in its absence.” Serageldin (1999) stated that economic growth and development is not possible without initializing the role of social capital.

No doubt, informal institutions are indispensable for growth but it cannot produce growth on its own, rather it can be used as a substitute or complement, for other types of capital (Neira *et al.*, 2009). Social capital can improve performance of an economy through two main channels: micro channel and macro channel. At the micro level, social trust can facilitates loan for individual investor by promoting contracts (Knack, 1999) while at macro level, social it can improve the public administrative efficiency and capability (Putnam *et al.*, 1993), and in turn enhances the quality of economic policies (Easterly & Levine, 1997). Apart from positive impact, social capital can harm the overall welfare of the society and damage the aspect of communal obligations. These effects can create self-sufficiency and ignore the significance of these informal institutions in the process of development (Knack, 1999).

Asian countries make a tremendous progress in their economic growth during the past four decades. Real GDP of the region was estimated at \$3.3 trillion dollars in 1980 which increase to \$25.5 trillion in 2010. This increase in GDP is about 8 times. Real GDP per capita increased from about 4 times during the same period, while an increase in average global income was estimated at less than 2 times (Lee and Hong, 2010). Several factors were responsible for this rapid growth, such as human resources, investment, demographic dividends, institutional and policy variables. Sachs *et al.*, (2001) stated that Asian region's growth was due to high rates of capital formation, favorable geographic and structural characteristics, economic policies and strategies that was favorable for growth. The literature show that strategic policies adopted by the government, particularly relating to trade openness, privatization, export promotion and market liberalization strategies are the contributing factors.

In spite of all these factors, the region's dramatic progress in economic growth during 1990s was possible due to several institutional factors. For example, Ahrens (2002) argued that high performing Asian economies² showed a significant improvement in their institutional quality during the recent pasts and these Asian economies performed better than all other regions except OECD countries. He further stated that the consistent formulation of reform policies as well as the

democratic accountability was applied to the political institutional structure of these high performing Asian economies. Campos & Nugent (1999) showed that governance indicators particularly the bureaucratic efficiency has played a crucial role in enhancing the economic growth of East Asian region. Similarly, Gonzalez and Mendoza (2001) proposed that efficient public institutions and political stability were the main factors that improve the economic performance East Asian region.

The current research aims to empirically investigate the role of formal and informal institutions in determining economic growth and to test whether formal and informal institutions are used as substitutes/complement in the development process of Asian countries over the period 1986-2015. The study adds significantly to the prior literature in following ways. First, in literature, most of the studies investigated only the formal institutions -economic growth or informal - economic growth nexus. But in order to understand the dynamic relationship among these variables; they must be combined in a single model. Second, most of the existing studies are on cross-country analysis. In this study we employ a panel data methodology to achieve robust results like panel fixed effect estimators' technique that reduces the unobserved country heterogeneity and system GMM methodology that endogeneity problems in selected growth models. The results of this study provide guideline for policy makers to form comprehensive policies to strengthen institutions and encourage the interaction and integration among individuals to promote social trust in order to achieve to sustain the level of economic growth.

MATERIALS AND METHODS

Materials: This study empirically investigates the effect of formal and informal institutions on economic growth in Asian countries while controlling the effect of three major determinants of economic growth such as human capital, physical capital and trade openness. The general form of the model is following:

$$eg_{it} = \alpha_0 + \alpha_1 hc_{it} + \alpha_2 pc_{it} + \alpha_3 tro_{it} + \alpha_4 finst_{it} + \alpha_5 infinst_{it} + \omega_i + \mu_{it} \quad (1)$$

In the above equation, *eg* is real per capita income (US\$) in log form, *hc* is human capital index and based on average years of schooling and returns to education, *pc* is physical capital and proxied by gross fixed capital formation (% of GDP), *tro* represent trade openness which is the ratio of exports and imports to GDP, *finst* represent informal institutions and index of civil liberties and political rights are used to measure formal institutional quality. We also use security of property right index (*spr*) as alternate indicator of formal institutional quality. *infinst* represent informal

²Singapore, South Korea, Indonesia, Hong Kong, Malaysia, Thailand, Philippines



institutions that indicates generalized trust. Finally, ω represent country specific effect and μ is error term. We also include interaction term between formal and informal institutions ($finst \times inf inst$) in empirical analysis. The data on all variables is collected from WDI Database by World Bank except institutional quality indicators which are taken from [Freedom in the World Tables \(2022\)](#) from Freedom House.

Numerous studies have used trust variables collected from WVS to measure informal institutions. However, we have some objections on trust data collected from WVS. The data is collected via waves of survey and the period of each wave is 4 to 5 years and there are 7 waves from 1981 to 2022. In our sample of 21 Asian countries, only the data of 14 countries are reported in all waves of survey and there is not a single country that surveyed in all waves (see Table 1). Thus, contract intensive money (CIM) is used to measure informal institutions due to large number of missing observations in WVS trust data. CIM is defined as a ratio of non-currency money to total money supply or $(M_2 - C) / M_2$ where M_2 is total money supply and C is currency held outside banks. The data of both the indicators of contract intensive money C and M_2 is extracted from International Financial Statistics, IMF.

[Clague et al., \(1999\)](#) introduced the idea of CIM and use it to measure contract enforcement and security of property rights. [Baliomoune-Lutz \(2011\)](#) stated that CIM shares similar characteristics as generalized trust and is a good measure of trust. [Baliomoune-Lutz, \(2011\)](#) further show that CIM has

positive correlation with trust and share similar characteristics with trust, that is, both are slow changing with the passage of time. However, the correlation between CIM and trust is found to be negative in the case of developing countries. The similar exercise has been applied in the available data of trust for Asian countries. The data of WVS presented in Table 1 describe some variation in trust data. However, the correlation between trust and CIM is found to be negative and much weaker³. The findings are consistent with [Holm and Danielson \(2005\)](#) and [Baliomoune-Lutz, \(2011\)](#).

Table 2 describes correlation matrix among selected variables based on panel data for 21 Asian countries. The results show that most of the variables have significant correlation coefficient. One exception is the negative and insignificant correlation between pc_{it} and tro_{it} in Column II. It is worth mentioning that all variables have positive and significant correlation with growth. Highest correlation is observed between spr_{it} and eg_{it} at coefficient of 0.68, followed by hc_{it} and eg_{it} at coefficient of 0.64. Similarly, all variables show positive and significant correlation with social capital and institutional quality variables.

Method: Empirical methodology starts with the application of fixed effect method to achieve desired objectives. Fixed effect method can reduce omitted variable bias and reduce unobservable country specific effects in empirical findings. However, studies like [Bond et al. \(2001\)](#); [Acemoglu et al., \(2003\)](#); [Baliomoune-Lutz \(2011\)](#); and [Ahmad and Hall \(2017\)](#) pointed out that fixed effect methods do not provide reliable

Table 1. Variation in the Levels of Generalized Trust.

Country	Wave I (1981-84)	Wave II (1990-94)	Wave III (1995-99)	Wave IV (2000-04)	Wave V (2005-09)	Wave VI (2010-14)	Wave VII (2017-22)	Average Trust based on CIM
Bangladesh	-	-	20.5	23.3	-	-	12.9	0.62
China	-	60.3	52.2	54.5	52.3	60.2	63.5	0.75
India	-	34.4	37.9	41.0	23.3	32.1	-	0.59
Iran	-	-	-	49.6	10.5	-	14.8	0.56
Pakistan	-	-	20.6	30.8	-	22.2	23.3	0.58
Philippines	-	-	5.5	8.4	-	3.2	5.3	0.49
Jordan	-	-	-	-	30.7	13.2	15.9	0.63
Indonesia	-	-	-	51.6	42.5	-	4.6	0.67
Singapore	-	-	-	16.9	-	37.3	34.4	0.72
Japan	37.4	37.6	-	39.6	36.6	35.9	33.7	0.74
South Korea	38.0	34.2	30.3	27.3	28.2	26.5	32.9	0.70
Thailand	-	-	-	-	41.5	32.2	28.9	0.77
Vietnam	-	-	-	41.1	52.1	-	27.7	0.68
Hong Kong	-	-	-	-	41.1	48.0	36.4	0.79
No. of obs.	2	4	6	11	10	10	13	14
Average	37.7	41.6	27.8	34.9	35.8	31.1	25.7	0.66

Note: Trust data was unavailable for the period 1985-89 because no survey was conducted during this period.

³ Linear correlation between trust and CIM 1990, CIM 1995, CIM2000, CIM2005, CIM2010, CIM2015 and CIM2020 is -0.05, -0.01, -0.06, -0.14, 0.12, -0.05 and 0.08 respectively.



Table 2. Correlation Matrix using 1986-2020 data for Asian countries.

	eg_{it}	hc_{it}	pc_{it}	tro_{it}	$finst_{it}$	spr_{it}	$inf\ inst_{it}$	$inf\ inst \times inst_{it}$
hc_{it}	0.647 (0.000)							
pc_{it}	0.040 (0.653)	-0.067 (0.457)						
tro_{it}	0.583 (0.000)	0.225 (0.011)	-0.051 (0.574)					
$inst_{it}$	0.457 (0.000)	0.459 (0.000)	0.120 (0.180)	0.145 (0.103)				
spr_{it}	0.683 (0.000)	0.509 (0.000)	0.321 (0.000)	0.505 (0.000)	0.386 (0.001)			
$inf\ inst_{it}$	0.555 (0.000)	0.182 (0.041)	0.165 (0.070)	0.231 (0.009)	0.284 (0.001)	0.233 (0.008)		
$inf\ inst \times inst_{it}$	0.558 (0.000)	0.452 (0.000)	-0.293 (0.000)	0.239 (0.000)	0.936 (0.000)	0.443 (0.000)	0.552 (0.000)	
$inf\ inst \times spr_{it}$	0.571 (0.000)	0.436 (0.000)	0.028 (0.000)	0.487 (0.000)	0.450 (0.000)	0.828 (0.000)	0.720 (0.000)	0.649 (0.000)

estimates due to likely correlation between institutions and error terms. Thus, institutional variables could be treated as endogenous as there is possibility of reverse causation from institutions to growth. Thus, the general model presented in Equation (1) indicate endogeneity problem. The problem of endogeneity could be solved by employing relatively new and advanced econometrics technique namely system GMM developed by [Arellano and Bover \(1995\)](#) and [Blundell and Bond \(1998\)](#). This method can correct unobserved country specific effect, omitted variable bias, and endogeneity problem. Two specification tests are used to check the validity of instruments. First is Hansen test of over identifying restriction which test the overall validity of instruments. The second test examine that error term of difference equation must be uncorrelated particularly at second order (AR₂).

The following dynamic form equation is estimated by applying GMM method:

$$eg_{it} = \beta eg_{it-1} + \gamma' [z]_{it} + \omega_i + \mu_{it} \quad (2)$$

Where eg_{it} is real per capita income, eg_{it-1} is the lagged value of initial real income per capita, z_{it} is the set of explanatory variables including human capital, physical capital, trade openness, formal institutions and informal institutions. ω_i is a time-invariant country specific effect and μ_{it} represents normally distributed error term.

RESULTS

Table 3 reports the estimates of fixed effect methods for six different specifications. We employ Hausman test to make choice between fixed effects and random effects estimators. The outcomes of Hausman test signify the importance of fixed effects against random effects for all specifications. Therefore, we report and focus the results of fixed effects

method only. Column (I) shows the results of basic model where human capital (hc_{it}), physical capital (pc_{it}), trade openness (tro_{it}) and informal institutions ($inf\ inst_{it}$) proxied by CIM are treated as explanatory variables. All these coefficients are positive and statistically significant at 1% level. Column (II) adds formal institutions ($finst_{it}$) as an additional explanatory variable. Empirical findings demonstrate that all coefficients have positive and significantly impact economic growth except $finst_{it}$ which is found to be positive but insignificant. In Column (III), we remove $inf\ inst_{it}$ to explore independent effect of $finst_{it}$ on economic growth. The results indicate that after removing $inf\ inst_{it}$, the coefficient of $finst_{it}$ is significant with positive sign. Column (IV) report the joint effect of formal and informal institution ($finst \times inst_{it}$) which is found to be negative and significant. In Column (V) and (VI), we explore the monotonic connection between $inf\ inst_{it}$ and growth, $finst_{it}$ and growth, respectively. The results in indicate a U-shaped relationship between formal institutions and economic growth, informal institutions and economic growth.

Table 4 presents the estimates of fixed effect method using different institutional quality indicator namely security of property rights. The effect of property rights on output growth is significant with positive sign. The interaction term shows the negative joint effect of $finst \times inf\ inst_{it}$ on economic growth. In addition, the results show evidence of non-linear relationship between $inf\ inst_{it}$ and economic growth, $finst_{it}$ and economic growth.

In addition, we apply system GMM estimators' technique to check the robustness of results and empirical findings are displayed in Table 5 and 6. In Table 5, combined index of civil liberties and political rights is used to measure formal institutional quality. The coefficients of formal and informal



Table 3: Fixed Effects Results (Dependent variable: eg_{it})
 $finst_{it}$ = Index of civil liberties and political rights

Variables	(I)	(II)	(III)	(IV)	(V)	(VI)
hc_{it}	0.617* (0.138)	0.614* (0.141)	0.748* (0.140)	0.540* (0.146)	0.611* (0.139)	0.616* (0.143)
pc_{it}	0.012** (0.006)	0.012** (0.005)	0.014** (0.005)	0.014** (0.005)	0.011*** (0.005)	0.012** (0.005)
tro_{it}	0.005* (0.001)	0.005* (0.001)	0.005* (0.001)	0.005* (0.001)	0.005* (0.001)	0.005* (0.001)
$inf\ inst_{it}$	1.332* (0.428)	1.337* (0.432)		2.545* (0.807)	-2.354 (1.807)	1.321* (0.442)
$finst_{it}$		0.033 (0.332)	0.077** (0.034)	0.168*** (0.991)	0.072 (0.327)	-0.243 (1.125)
$finst \times inf\ inst_{it}$				-2.249*** (1.274)		
$inf\ inst_{it}^2$					2.780** (1.322)	
$finst_{it}^2$						0.215** (0.098)
constant	5.714* (0.380)	5.698* (0.414)	6.365* (0.356)	4.974* (0.580)	6.792* (0.661)	5.673* (0.436)
R^2	0.734	0.737	0.716	0.731	0.743	0.730
Countries	21	21	21	21	21	21
Observations	147	147	147	147	147	147
Hausman test (P-value)	0.002	0.001	0.002	0.001	0.000	0.000

Note: The robust standard errors are given in parentheses. The significance at 1%, 5 and 10% level is represented by *, ** and *** respectively.

Table 4: Fixed Effects Results (Dependent variable: eg_{it})
 $finst_{it}$ = Security of property rights

Variables	(I)	(II)	(III)	(IV)	(V)
hc_{it}	0.784* (0.144)	0.655* (0.145)	0.627* (0.146)	0.652* (0.142)	0.656* (0.146)
pc_{it}	0.015** (0.006)	0.012** (0.005)	0.012** (0.005)	0.011** (0.005)	0.012** (0.005)
tro_{it}	0.005* (0.001)	0.005* (0.001)	0.005* (0.001)	0.005* (0.001)	0.005* (0.001)
$inf\ inst_{it}$	0.042** (0.021)	0.039*** (0.020)	0.131*** (0.073)	0.035 (0.043)	-0.059** (0.024)
$finst_{it}$		1.323* (0.428)	2.503** (1.085)	-2.277 (1.801)	1.320* (0.431)
$finst \times inf\ inst_{it}$			-0.207*** (0.115)		
$inf\ inst_{it}^2$				2.708** (1.317)	
$finst_{it}^2$					0.010 (0.159)
constant	6.457* (0.363)	5.832* (0.403)	4.944* (0.852)	6.906* (0.655)	5.866* (0.548)
R^2	0.602	0.718	0.724	0.723	0.719
Countries	21	21	21	21	21
Observations	147	147	147	147	147
Hausman test (P-value)	0.010	0.003	0.001	0.000	0.000

Note: The robust standard errors are given in parentheses. The significance at 1%, 5 and 10% level is represented by *, ** and *** respectively.

institutions are positive and significant at 1% and 5% level respectively even after controlling for endogeneity. The rest of the variables are also positive and statistically significant.

All these results support our previous results estimated by applying fixed effect methods. In addition, we do not reject the second order autocorrelation in all models because p-value of AR (2) tests show insignificant results. Finally, the



Table-5. System GMM Results (Dependent variable: eg_{it})

$finst_{it}$ = Index of civil liberties and political rights

Variables	(I)	(II)	(III)	(IV)	(V)
$eg_{initial}$	-0.846* (0.037)	-0.849* (0.035)	-0.812* (0.434)	-0.809* (0.041)	-0.827* (0.092)
hc_{it}	0.153** (0.067)	0.104*** (0.063)	0.118*** (0.062)	0.122*** (0.063)	0.145 (0.177)
pc_{it}	0.021* (0.003)	0.023* (0.004)	0.022* (0.004)	0.019* (0.0045)	0.018* (0.007)
tro_{it}	0.0015* (0.000)	0.0015* (0.000)	0.0015* (0.000)	0.0015* (0.000)	0.0015* (0.001)
$inf\ inst_{it}$	0.575* (0.187)	0.479* (0.180)	0.875* (0.313)	-1.814* (0.667)	0.397 (0.400)
$finst_{it}$		0.217** (0.1116)	0.878*** (0.424)	0.184*** (0.111)	-2.270** (1.097)
$finst \times inf\ inst_{it}$			-0.834*** (0.511)		
$inf\ inst_{it}^2$				0.938** (0.4453)	
$finst_{it}^2$					2.254** (1.096)
Countries	21	21	21	21	21
Observations	147	147	147	147	147
Hansen test (p-value)	0.561	0.637	0.431	0.646	0.321
AR2 (p-value)	0.856	0.841	0.824	0.857	0.849

Note: The robust standard errors are in parentheses. The significance at 1%, 5 and 10% level is represented by *, ** and *** respectively.

instruments are valid for all model as indicated by the p-values of Hansen test.

Table 6. System GMM Results (Dependent variable: eg_{it})

$finst_{it}$ = Security of property rights.

Variables	(I)	(II)	(III)	(IV)
$eg_{initial}$	-0.380* (0.147)	-0.267 (0.166)	-0.343** (0.176)	-0.305*** (0.160)
hc_{it}	0.428* (0.146)	0.427* (0.120)	0.428* (0.109)	0.406* (0.128)
pc_{it}	0.031* (0.007)	0.010** (0.005)	0.019* (0.005)	0.006 (0.009)
tro_{it}	0.0005 (0.001)	0.0031* (0.001)	0.0013 (0.001)	0.003*** (0.001)
$inf\ inst_{it}$	1.955** (0.842)	5.371* (1.670)	-6.018** (2.883)	1.570* (0.528)
$finst_{it}$	0.377** (0.156)	0.694* (0.196)	0.277** (0.118)	-1.172* (0.426)
$finst$		-0.669* (0.220)		
$\times inf\ inst_{it}$				
$inf\ inst_{it}^2$			3.103*** (1.640)	
$finst_{it}^2$				0.086** (0.035)
Countries	21	21	21	21
Observations	147	147	147	147
Hansen test (p-value)	0.483	0.577	0.709	0.952
AR2 (p-value)	0.407	0.477	0.577	0.541

Note: The robust standard errors are in parentheses. The significance at 1%, 5 and 10% level is represented by *, ** and *** respectively.

Table 6 displays results using security of property rights as institutional quality measure. These results are consistent with those reported in Table 4 except for the trade openness variable which is insignificant. Non-linear relation between institutions and income is evident. The joint effect of property rights institutions and informal institutions on income is negative and significant. This reinforces the earlier finding that property rights institutions work with social capital to encourage investment and enhances economic growth. Further, Hansen over identification test suggest that instruments are valid for all models and AR (2) tests explain that the estimated models do not have problem of second order autocorrelation.

DISCUSSION

The estimated coefficient of human capital is 0.617 which indicates that economic growth increase by 0.617% due to 1% increase in human capital investment. The coefficient of physical investment and trade openness increases economic growth by 0.012% and 0.005% respectively. The magnitude of $inf\ inst_{it}$ is larger as compared to other estimated coefficients, that is, 1.332. The result implies that $inf\ inst_{it}$ is the most essential factor and has larger contribution as



compared to other factors such as human capital and physical capital formation in the growth process of Asian countries over the period 1986-2015. The findings corroborate the studies such as Zak and Knack (2001); Neira et al., (2009); Balamoune-Lutz, (2011); and Peiró-Palomina and Tortosa-Ausina (2012).

The results indicate that after removing $infinst_{it}$, the coefficient of $finst_{it}$ is significant with positive sign. This implies that a developed institutional structure increase transparency, control corruption, reduce transaction costs, increase investors' confidence and provide healthy environment favorable to both investors and producers. These activities provide incentives to both foreign and domestic investors to promote most productive investments and foster the process of output growth. This result support the findings of Jankauskas and Šeputienė, (2009); Zouhaier (2012) and Nasreen et al. (2015). The findings from joint effect of formal and informal institutions indicate that these institutions must be used together in the process of development that is both are complement to each other. This result is in line with the findings of Knack and Keefer (1997); Ahlerup et al. (2009); and Balamoune-Lutz (2009). The outcomes of U-shaped relationship between informal institutions and economic growth reveals that improvement in social trust is not good for the economic performance of those countries that have initial low level of trust and improve the path of growth in those countries that have already achieved a substantial level of social trust (Roth, 2009). It is reasonable to believe that low level of trust encourages rent seeking activities that harm the process of economic growth. On contrary, high level of trust connects people to work for their mutual benefits and efficiently use country's resources on most productive investment projects that are beneficial to the society as a whole. These activities positively influence the development process in a country.

Non-linear link between formal institutions and economic growth implies that formal institutions encourage economic growth but this impact occur only when institutional quality reached a certain threshold level (Balamoune-Lutz, 2011). The estimated turning point of informal institutions occur at a CIM value of 0.423. The estimated value of turning point lies between the maximum value (0.978) and minimum value (0.236). Similarly, the turning point for formal institutional quality occurs at a value of 0.565 and lie within sample range. This indicate that an improvement in formal institutional strongly impact income only in the presence of much improved level of social capital.

The positive link between property rights and economic growth indicates that more secure property rights results in expansion in economic growth through their effect on allocative efficiency. When property rights are not properly developed, resources are directed toward unproductive investment projects and transaction costs tend to be high. On the other hand, well developed property rights institutions

foster the process of economic growth through the more efficient use of available factors of production. This conclusion is in accordance with the findings of Falvey et al. (2006); Andrés and Goel (2011). The sign and significance of other findings are similar to those presented in Table 3. The threshold level of property rights institutions occurs at a value of 2.95. Beyond that level, an improvement in property rights institutions seems to generate positive impact on economic performance of those countries that have not well defined these institutions.

Conclusion: In this study, we tried to make a contribution in empirical literature by examining the effect of formal and informal institutions on the economic performance of Asian countries. To achieve this objective, we employ fixed effect and system GMM estimation techniques using annual data over the period of 1986 to 2020. Numerical estimates demonstrate the positive effect of linear and non-linear coefficients of institutions on economic growth in sample economies. The results further suggest that formal and informal are complement to each other in the growth process of Asian countries. Moreover, the effect of axillary variables on economic growth are also found to be supportive in all specifications.

Overall, the findings suggest that in the absence of developed formal institutional structure, any policy aiming at attracting investment and promote economic growth does not perform well as their incentives are crowded out by the huge business risk imposed on the country. Therefore, it is suggested that policy makers need to make parallel efforts to improve the quality of institutions along with traditional growth factors. These policies must be targeted to introduce good governance which will create stability in Asian countries. Empirical findings elucidate that informal institutions must be used as a complement with formal institutions in the development process of Asian countries. So, there is a need to implement those policies that stimulate and provide facilities for community activities and encourage the interaction and integration among individuals which in turn will promote trust, networks and norms. The results further show that informal institutions have positive impact on economic growth. So, there is need to prioritize investments in education and skills development programs that foster social interaction and collaboration. Education can improve informal institutions by promoting trust, cooperation, and social networks. Furthermore, lifelong learning initiatives that encourage continuous skill development and knowledge sharing among individuals and communities must be promoted. Finally, the establishment of business networks, industry associations, and professional organizations that promote knowledge sharing, mentorship, and collaboration must be supported to strengthen informal institutions.



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